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Comparison of Isolated Balance Exercise Regimen and Conventional Physiotherapy on Lumbar Flexion–Rotation Movement Impairment in Male Patients With Mechanical Low Back Pain

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Abstract

Background: Lumbopelvic Flexion-Rotation Movement Impairment Syndrome is a common pattern observed in individuals with mechanical low back pain (MLBP) characterised by altered postural control and neuromuscular dysfunction. Isolated balance training may offer focused benefits in such cases.

Objective: To compare the effectiveness of an isolated balance exercise regimen with conventional physiotherapy in managing Lumbopelvic flexion-rotation movement impairment syndrome in male patients with MLBP.

Materials and methods: A single-centre experimental study was conducted on 30 male patients (aged 18-26 years) diagnosed with Lumbopelvic flexion-rotation movement impairment syndrome. Participants were randomly assigned to Group A (Isolated Balance Exercise) or Group B (Conventional Physiotherapy). Outcomes were assessed pre- and post-intervention using standardised pain and disability scales.

Results: Both groups showed statistically significant improvements. Group A showed reductions in pain (Mean = 1.86, SD = ± 0.639) and disability (Mean = 1.60, SD = ± 0.736). Group B also improved in pain (Mean = 1.66, SD = ± 0.899) and disability (Mean = 1.60, SD = ± 0.7368). The isolated balance regimen was comparably effective with conventional therapy.

Conclusion: Isolated balance training is an effective and viable standalone intervention for managing MLBP due to Lumbopelvic flexion-rotation movement impairment syndrome.

Keywords: Lumbopelvic flexion-rotation syndrome; balance training; low back pain; movement impairment syndrome; physiotherapy; postural control; proprioceptive exercises.

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